

talion to work together. To support this training, the main command post (CP), the combat trains CP, the mortar platoon fire direction centers, and the field trains CP would set up and tie into the SIMNET site with wire and radio. Since our facility did not have enough simulators for every crew, we would only go down to platoon leader level. Then the site manager would attach SAF vehicles to fill out the company ranks.

The SIMNET could train more than just maneuver forces. I often started vehicles out with less than 100 percent of fuel or ammunition and then practiced a refuel/resupply-on-the-move site. The facility also had a fire support station, a close air support station, an engineer station, and a combat service support station. We put the company fire support officer in a simulator and had

him direct fire support while one of his forward observers ran the fire support station.

To make the SIMNET more realistic, I always started with an operations order and then a sand table rehearsal. This allowed me to exercise my troop-leading procedures.

The SIMNET did have limitations:

- It could not replace actual field training, maneuvering, and shooting. Indeed, there is no substitution for these.
- It could not fully exercise the dismounted infantry. The facility's one dismount station represented only one infantry squad.
- Vehicles could not dig in. We had to position them in tree lines or on reverse slopes, exposing a vehicle as it moved to fire.

Despite these limitations, I found the SIMNET an excellent training device. With a well-thought-out program, good coordination, and a clear idea of what the SIMNET could do for us, we used it effectively. The key benefit was better command and control. The platoons improved fire control and distribution and battle drill execution. In turn, the company's crews and platoons were much better when they actually deployed to the field.

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Getting More Out of the Bradley Platoon Gunnery Trainer

CAPTAIN CRAIG A. COLLIER

The Bradley platoon gunnery trainer (PGT) consists of four conduct-of-fire trainer (COFT) systems linked together with two image generators and a platoon communication system. The Bradley PGT, designed to train platoon gunnery with an emphasis on fire control and distribution, is currently available only in Europe, where I encountered it in the 1st Armored Division.

The PGT combines the precision gunnery training of the COFT with the exercise playback, after-action review (AAR) capability, and computer graphics of the simulations network (SIMNET). Unlike SIMNET, however, in the PGT the enemy cannot fire back, and the exercise playback, though useful, is limited to a VCR tape of color-

coded Bradley fighting vehicle (BFV) icons along with the platoon's recorded conversation.

Like the COFT, the PGT provides a variety of offensive and defensive exercises in several types of terrain and visibility conditions. The PGT in the division had added a desert database, improved graphics, and the ability to separate into four COFTs, complete with the COFT matrix.

The best part of the PGT, however, is that it enables the trainer to modify existing programs or create completely new ones to fit his training needs. When the platoon gunnery trainer arrived in the division, the infantry company commanders quickly realized it was the best and most cost-effective method of teaching platoon fire control and

distribution, short of Bradley Tables (BTs) XI and XII. In fact, the original intent was to use the PGT as a "gate" before a platoon's BT XI.

My goal was to train my platoons on our standard platoon fire control and distribution standing operating procedures (SOPs), using realistic exercises with enemy formations. Our platoon fire control SOP has each BFV responsible for the destruction of a portion of an enemy vehicle formation: The wingmen fire at vehicles from the outside to the inside and from far to near of the formation; the platoon leader and platoon sergeant fire at vehicles from inside to outside and from near to far. This arrangement is easy to control if everyone understands his part and the enemy formation consists of the same

type of vehicles, such as BMPs, but it becomes more difficult for the platoon leader to control when tanks, Hind-D helicopters, or troops are included in the formation.

Some of the PGT's limitations became apparent, however, after a few rotations through it. These included its small selection of exercises (it comes with only 16) and lack of realistic scenarios. For example, the primary defensive exercise consists of eight distinct situations in which the platoon engages enemy tanks, BMPs, squads, and RPG teams at ranges between 300 and 3,000 meters, then squads and RPG teams at 300 to 500 meters. Yet none of the vehicles are in any type of formation; they simply appear at once all over the battlefield—like COFT targets—and either are destroyed or disappear into woodlines and ravines. Some of the vehicles even cross in front of each other while moving to opposite sides of the battlefield. Also, the platoon sergeant's wingman misses most of the action, because few enemy vehicles enter his sector.

After the platoons went through this exercise two or three times, the crews began to anticipate when and where the enemy would attack and then ambush him as soon as he appeared. They killed more enemy vehicles, of course, but not because of any improvement in fire control and distribution.

I approached the service administrator of the post PGT about creating several new scenarios to make the training more realistic and challenging.

With only a diagram, my commander's intent, and some details, he created eight new exercises in a few weeks.

The PGT system can hold up to 14 targets at once. The selection includes enemy targets such as T-72 tanks, BTRs, BMPs, BRDMs, ZSUs, and Hind-Ds, and friendly vehicles such as M1 and M60 tanks, M2 BFVs, and Apache

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helicopters. The system can also change vehicle speeds and formations. Since the enemy cannot react to friendly fire, this is particularly useful in adding realism to the exercise. For example, an enemy column moving toward the platoon at 20 miles per hour can change to battle formation and increase its speed to 40 miles per hour after 15 seconds (about the time an enemy commander would see fires coming into his formation).

Using the *crawl, walk, run* approach, the first situations in the exercise were easy and became gradually more difficult and challenging. The last situation—the *run* part—separated the good platoons from the great ones. One of these “expert runs” consisted of 10

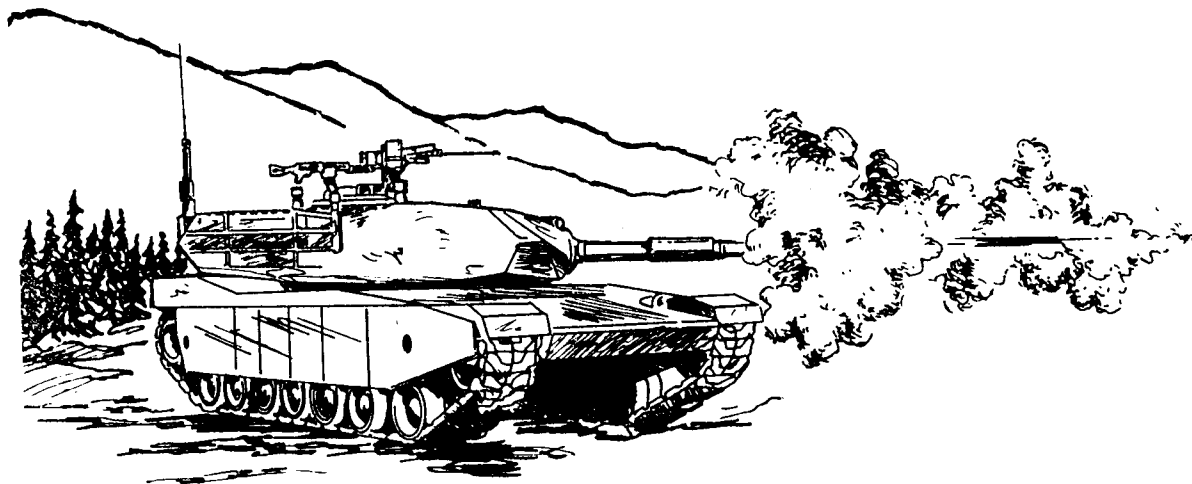
BMPs and three T-72s in column at about 1,500 meters, moving from right to left at 30 miles per hour. Only a well-trained and disciplined platoon could destroy every enemy vehicle in that formation before it could get away.

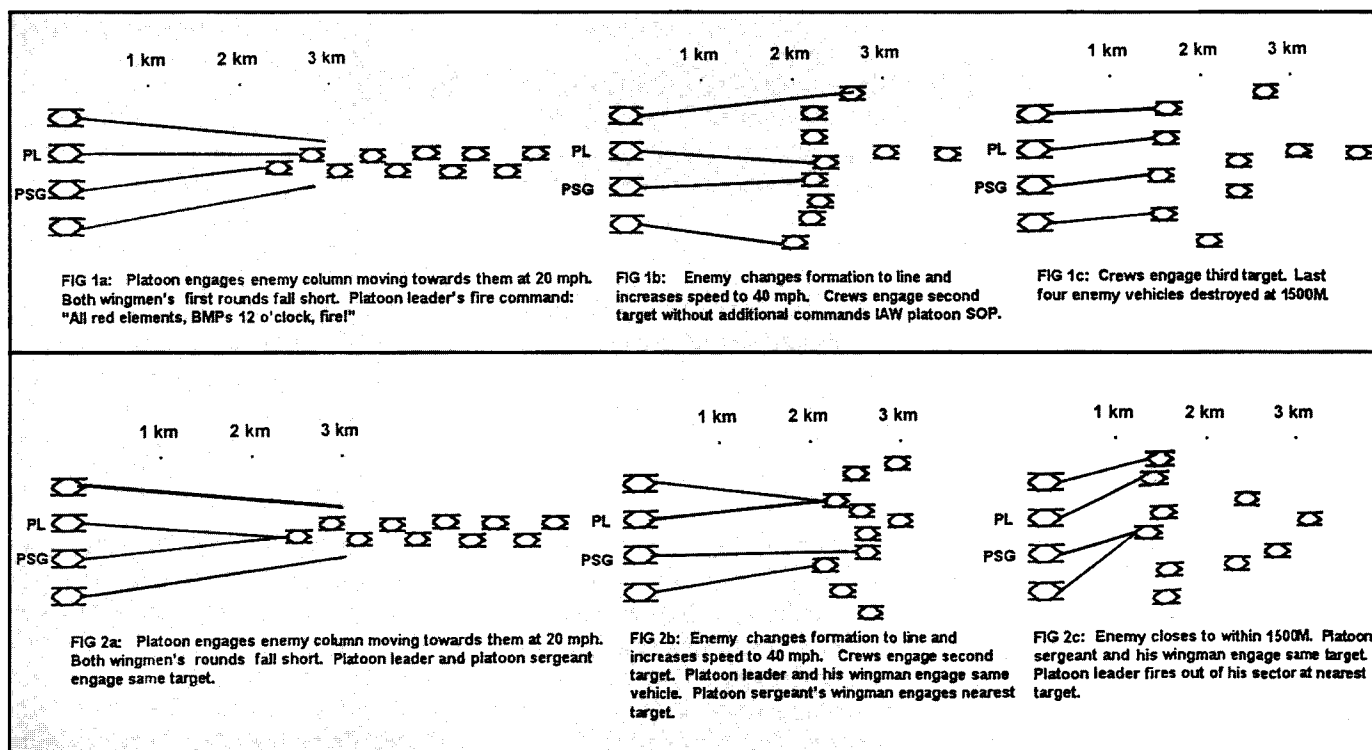
The major improvement in the exercises was that the enemy attacked in doctrinally correct formations, either directly at the platoon, oblique to it, or right-to-left across its front. The first few situations consisted of BMPs but later included a mix of tanks, APCs, Hind-Ds, and dismounted troops. In addition, each BFV could engage the enemy across the entire platoon front.

We reviewed each of the exercises in the PGT to make sure they worked. The major problems were ensuring that the enemy vehicles were not masked by terrain and that they did not move too fast. An enemy vehicle speed of 20 miles per hour starting at 2,500 meters out worked best. After some minor adjustments, we brought in the platoons.

A platoon knew it had failed the exercise when the soldiers either killed the last few vehicles within 1,000 meters or were actually overrun by whatever enemy vehicles remained. Members of the next platoon in line, watching the show on television screens in the monitoring room, usually howled with laughter as the platoon in the simulators was overrun. Needless to say, peer pressure played a significant role in motivating the platoons to improve their performance.

The new exercises did a much better job of training the platoon on the SOPs.





The exercise playback tape the platoon watched in the AAR room clearly showed which crew fired at enemy vehicles out of its sector and which enemy vehicles were engaged by two or more Bradleys, as shown in the accompanying box. These figures are a simple version of what the platoon sees on the exercise playback tape in the AAR room. The lines represent BFV engagements. The enemy vehicle icons turn from red to black when killed. The top panel (Figure 1a-1c) shows a successful platoon whose crews understand the platoon fire control and distribution SOP. The bottom panel (Figures 2a-2c) shows a platoon whose crews tend to fire at the nearest target. The result is an overrun platoon, or at least three enemy vehicles destroyed within 1,000 meters. From the playback, the platoon leader could easily identify which of his crews had not understood the SOPs and needed additional training.

After a few rotations through the new exercises, the platoons' fire control and distribution were improved remarkably. The crews viewed the exercises as a challenge and realized that they had to adhere to the platoon SOP to succeed or suffer the embarrassment of being over-

run. They could see the effects of a well rehearsed and understood fire control plan. The platoon leaders learned that they had to be able to give quick, concise fire commands when tanks, troops, or Hind-Ds appeared in the enemy formation. Not surprisingly, the platoon's radio discipline and reporting procedures also improved.

Another benefit from the exercises was practice in the application of intelligence on enemy doctrine and tactics. On one exercise, the platoon faced an attacking enemy complete with regimental reconnaissance, combat reconnaissance patrol, forward patrol, forward security element, and two MRCs from the main body's advance guard. The platoons learned what formations and types of vehicles to expect in a movement-to-contact as they practiced the fire control SOP.

A third exercise consisted of BT XII tasks. It contained the same number of targets, type of vehicles, ammunition breakdown, and order of engagement as the table. The platoon leaders could identify problem areas before ever firing a live round on BT XII.

The most important result of the new exercises came during platoon

qualification less than a month later. In previous BT XII runs, one of the major problems was ammunition conservation. Frequently, enemy vehicle targets went unengaged because the crews ran out of ammunition before the end of the table. This time, the crews "double-tapped" far fewer enemy targets, conserved ammunition, and were able to engage every enemy vehicle target. Each of the platoon's gunnery scores increased as a result. Afterwards, all of the crews said the new exercises in the platoon gunnery trainer were the best preparation for BT XII they had received, short of live firing.

I considered the Bradley PGT the best simulator for training platoon fire control and distribution. With a little imagination and some help from a PGT service administrator, each company commander can have the trainer tailored to train platoons on his specific platoon fire control SOP.

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